

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309395

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-4000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P309395
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2623.0 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

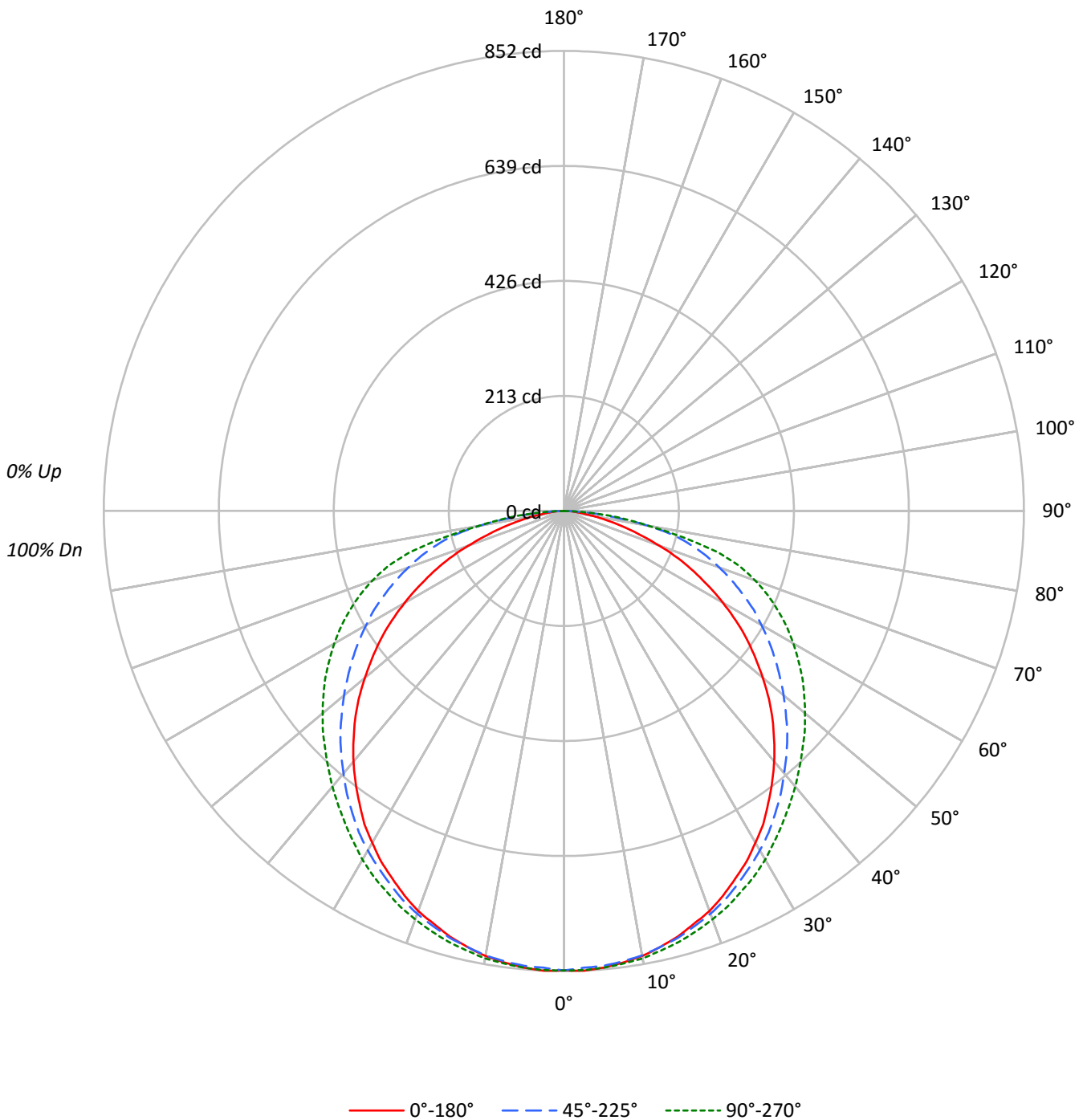
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1145	1145	1145
5°	1146	1142	1146
10°	1143	1142	1149
15°	1137	1140	1150
20°	1129	1137	1152
25°	1115	1131	1154
30°	1102	1128	1158
35°	1084	1122	1160
40°	1065	1115	1171
45°	1041	1114	1189
50°	1007	1113	1221
55°	971	1121	1265
60°	916	1138	1321
65°	846	1164	1395
70°	739	1205	1486
75°	599	1267	1536
80°	442	1242	1242
85°	340	915	1034



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.6	3.1
10°-20°	231.5	8.8
20°-30°	352.4	13.4
30°-40°	428.0	16.3
40°-50°	452.1	17.2
50°-60°	426.6	16.3
60°-70°	354.7	13.5
70°-80°	233.4	8.9
80°-90°	63.6	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	664.6	25.3
0°-40°	1092.5	41.7
0°-60°	1971.3	75.2
0°-90°	2623.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2623.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	851	851	851	851	851	
5°	849	849	846	849	849	81
15°	816	817	818	826	826	230
25°	751	756	762	775	778	346
35°	660	668	683	701	706	413
45°	547	558	585	614	625	421
55°	414	432	478	523	539	369
65°	266	296	366	420	438	263
75°	115	168	244	289	295	124
85°	22	48	59	66	67	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	851.0	851.0	851.0	851.0	851.0
2.5°	852.1	851.0	846.6	851.0	851.0
5°	848.8	848.8	845.5	848.8	848.8
7.5°	843.3	843.3	841.2	845.5	845.5
10°	836.8	836.8	835.7	841.2	841.2
12.5°	826.9	828.0	826.9	833.5	833.5
15°	815.9	817.0	818.1	825.8	825.8
17.5°	801.6	803.8	806.0	814.8	815.9
20°	788.4	789.5	793.9	803.8	804.9
22.5°	770.9	774.2	779.7	789.5	792.8
25°	751.1	755.5	762.1	775.3	777.5
27.5°	732.4	735.7	744.5	758.8	763.2
30°	709.4	714.9	725.8	740.1	745.6
32.5°	687.4	692.9	706.1	721.5	725.8
35°	660.0	667.7	683.0	700.6	706.1
37.5°	633.6	641.3	660.0	679.7	686.3
40°	606.2	614.9	634.7	657.8	666.6
42.5°	576.5	588.6	610.5	635.8	645.7
45°	546.9	557.8	585.3	613.8	624.8
47.5°	515.0	528.2	557.8	591.9	605.1
50°	481.0	497.4	531.5	568.8	583.1
52.5°	446.9	465.6	504.0	545.8	561.1
55°	414.0	431.6	477.7	522.7	539.2
57.5°	377.7	399.7	450.2	498.5	515.0
60°	340.4	364.6	422.8	473.3	490.9
62.5°	303.1	330.5	396.4	446.9	465.6
65°	265.7	296.5	365.7	419.5	438.1
67.5°	229.5	263.5	337.1	390.9	409.6
70°	187.8	230.6	306.4	359.1	377.7
72.5°	149.3	198.8	276.7	326.1	342.6
75°	115.3	168.0	243.8	288.8	295.4
77.5°	84.6	137.3	209.7	225.1	226.2
80°	57.1	109.8	160.3	158.1	160.3
82.5°	37.3	82.4	101.0	113.1	114.2
85°	22.0	48.3	59.3	65.9	67.0
87.5°	11.0	16.5	20.9	22.0	24.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)